

Patent
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REMARKS

Claims 1-29 are pending in the application. Claims 1, 12 and 19 are independent claims.

Claims 1-29 were rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,442,158 (Beser). This rejection is respectfully traversed and reconsideration is requested.

A method or system in accordance with Applicants' teachings localizes quality of service estimations to *specific* communications mediums or physical communication paths within a time-invariant communication network. For example, when a CPE (customer premise equipment) device has one and only one unique physical time-invariant communication path, it allows Applicants' approach to function, since such a system has a-priori knowledge of the physical position of the CPE element in relation to the headend or to a test node element inserted into the physical network in the field. This approach allows for localized physical communication medium quality of service segment judgments *based on an individual CPE link's performance as it relates to the performance of other CPE devices that must share the same physical communication medium.*

Specifically, independent Claim 1 (reciting similar limitations to the system of Claim 12), is directed to a method of quality service localization within a relatively time-invariant communications network. First the method receives quality of service estimations for a plurality of communications mediums. Each of the plurality of communications mediums (1) is defined between a respective one of a plurality of transmitters located within the communications network to a common receiving point of the communications network and (2) is conveyed over at least one shared physical communications path and at least one non-shared communications path. Each of the plurality of transmitters has only one unique physical time invariant communication path to the common receiving point. The method then compares the quality of service estimations for the plurality of communications mediums with one another in order to localize a respective quality of service estimation to a likely physical communication path within the communications network.

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The system of independent Claim 19 is directed to a system for quality service localization including a relatively time-invariant communications network that includes a common receiving point, a plurality of transmitters for transmitting to the common receiving point, and a plurality of communications mediums coupling respective ones of the plurality of transmitters to the common receiving point. Each of the communications mediums is conveyed over at least one shared physical communications path and at least one non-shared communications path to the common receiving point, and each of the plurality of transmitters has only one unique physical time invariant communication path to the common receiving point. The system further includes a quality of service localizer, coupled to the common receiving point, which localizes, based upon the comparing with one another, quality of service estimations received from the common receiving point, a particular quality of service estimation to a likely physical communication path within the network.

Beser's system /method teaches that a particular packet that has been placed on the transmission medium already has a *predefined QoS identifier associated with it* that tells it's recipient the packet's network permissions and thus can be viewed as a packet communication flow control mechanism (e.g., col. 13, lines 50-56). The "data-packets received by the head-end of the data-over-cable system are sorted according to the Quality-of-Service Identifiers assigned to the destination for the respective data-packets. [t]he sorted data-packets are forwarded subsequently in accordance with the Quality-of-Service settings corresponding to their respective Quality-of-Service identifiers" (see Beser Abst).

Thus, for example, in the system proposed by Beser, if two packets are received simultaneously by a recipient node in the network, each having a different QoS level announcement imbedded in the packet itself, then the recipient node will forward the higher QoS identified packet before the lower QoS identified packet. This is known in the art as a network QoS policy mechanism that allows different types of packet communications, i.e. voice, video, data, and their delivery requirements and/or service level agreements, to be maintained in the presence of network congestion.

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A method or system in accordance with Applicant's teachings, on the other hand, does not "tag" any QoS identifiers on any of the packets at any point in the communication process, but rather *collects* the packets at a recipient node and then *analyzes them to determine what the received signal quality is at that physical location*.

With predetermined knowledge of the network's physical topology, i.e. physical locations of all subscribers in relation to each other and in relation to the collecting recipient node, Applicants' system/method can then collect and analyze several subscriber's signal qualities, and together using each subscriber's time-invariant physical connectional relationship to each other in the network, determine where in the network the quality of the signal was decreased the most – thereby identifying a local physical segment of the network as the most likely section that should be maintained, replaced or removed from the network. This also allows the network provider to remotely analyze what quality of service his network can maintain, and if upgrades and/or maintenance are required, to be able to localize physically in the network where signal degradation points are and spend his money wisely.

As specifically recited in each of independent Claims 1, 12 and 19, Applicants' method/system *compares the quality of service estimations for the plurality of communications mediums with one another in order to localize a respective quality of service estimation to a likely physical communication path within the communications network*. Beser's "QoS policy mechanism" fails to teach or suggest Applicants' method/system recited in the proposed claims.

For all of the foregoing reasons, Applicants respectfully submit that each of independent Claims 1, 12 and 19 is patentable over Beser and favorable reconsideration is requested.

Claims 2-11, 13-18 and 20-29 are dependent on one or another of independent Claim 1, 12 or 19, and therefore such dependent claims are submitted to be patentable for at least the same reasons as the independent claims from which they depend.

It is respectfully submitted that in regard to the above remarks that the pending application is patentable over the art of record and prompt review and issuance is accordingly requested.

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Should the Examiner be of the view that an interview would expedite consideration of this amendment or of the application at large, request is made that the Examiner telephone the Applicants' undersigned attorney at (908) 518-7700 in order that any outstanding issues be resolved.

Respectfully submitted,

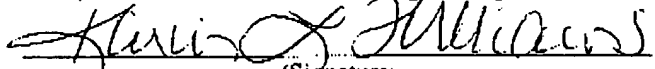

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